

2 games and a puzzle

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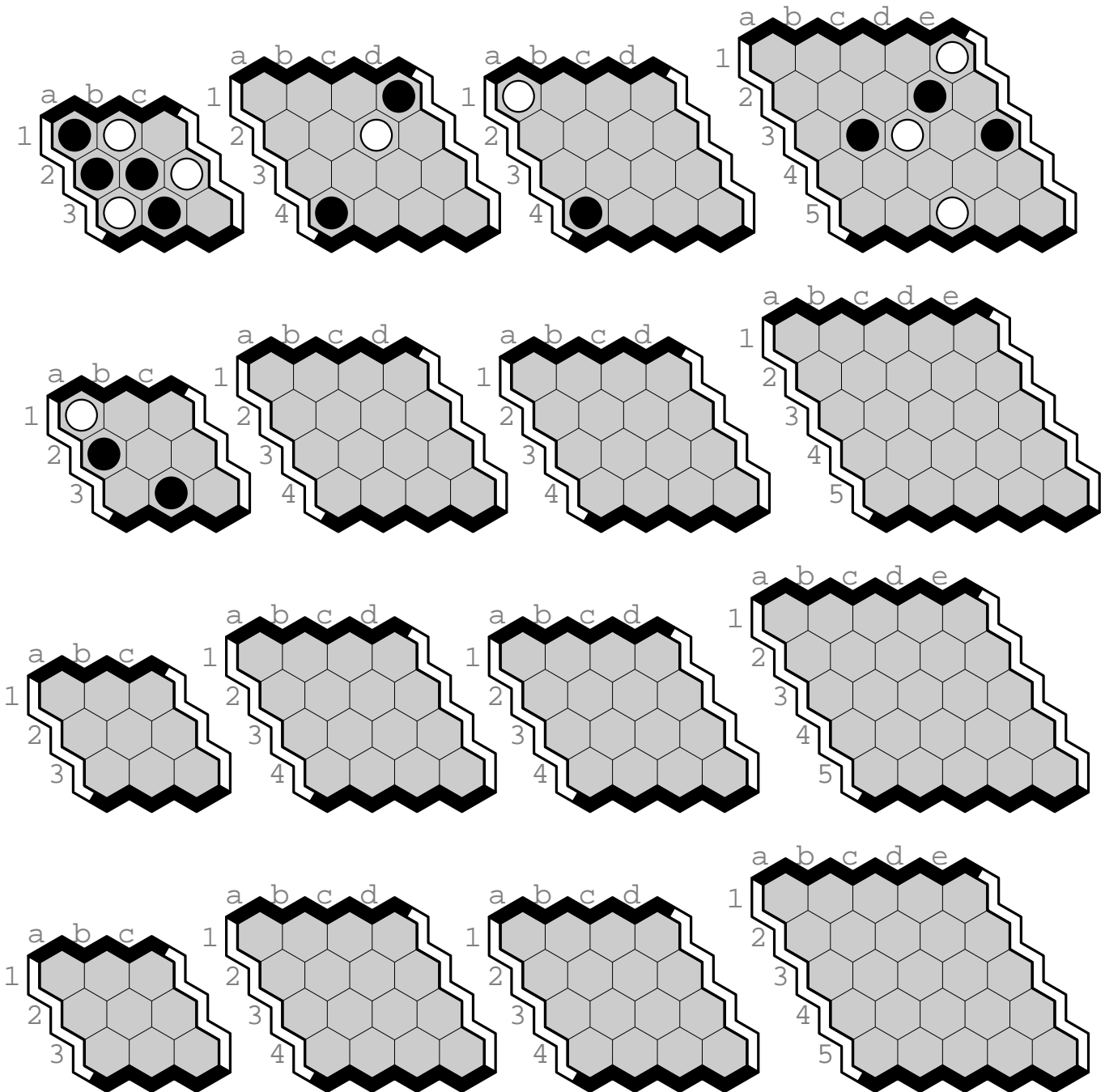
hex an alternate-turn 2-player game. **invented** Denmark 1942. **rules** Decide who moves 1st. On your turn, mark an empty cell. **winner?** whoever joins their two sides. Below left: Black wins. Play with your neighbor. For each puzzle, find a winning move (1st move of a strategy that wins against all possible opponent strategies) for Black and then for White.

<https://bookstore.ams.org/nml-54>

<https://webdocs.cs.ualberta.ca/~hayward/355/asn/hexviz/>

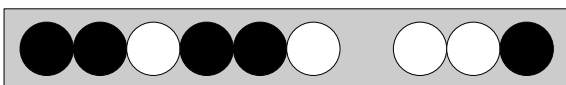
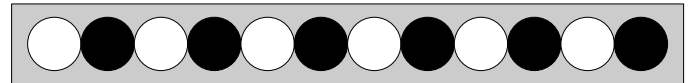
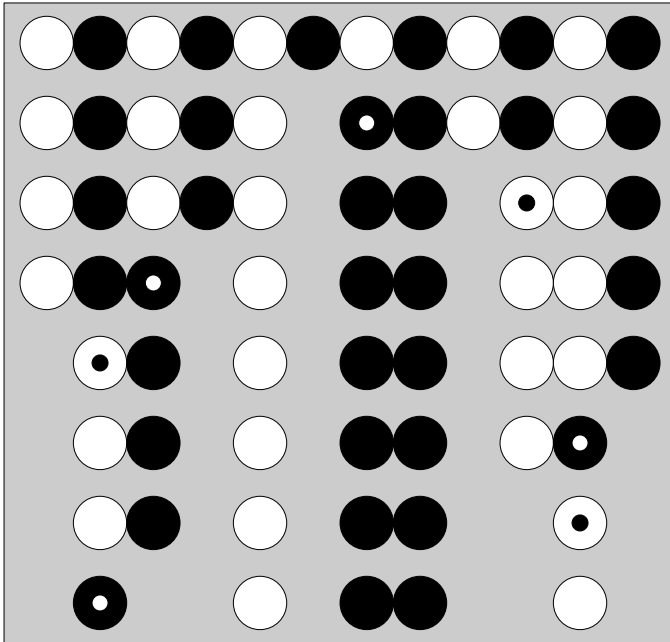
<https://webdocs.cs.ualberta.ca/~hayward/talks/hex.detect.pdf>

<https://webdocs.cs.ualberta.ca/~hayward/hexbook/hexfull.html>

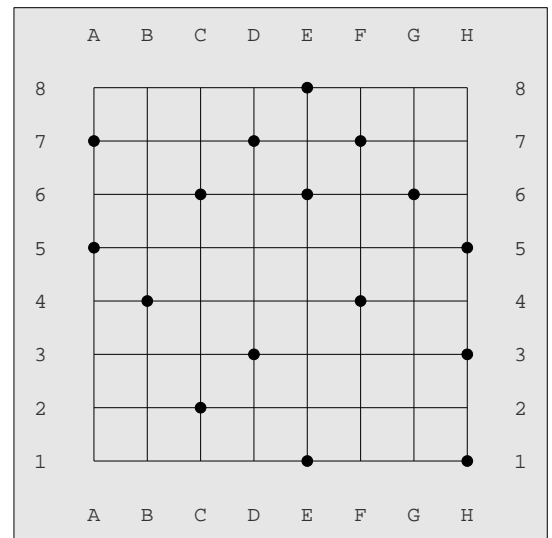
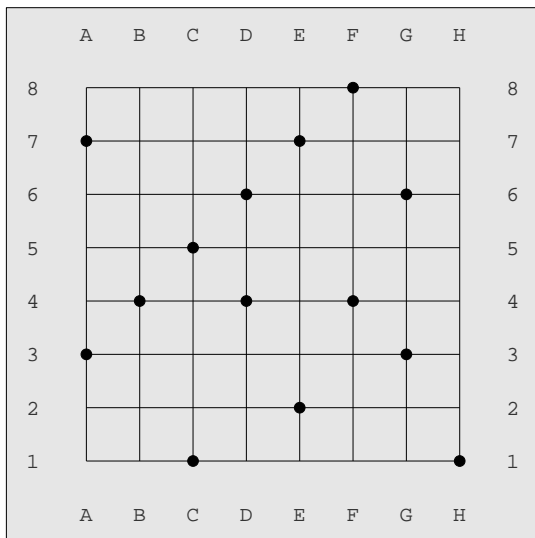
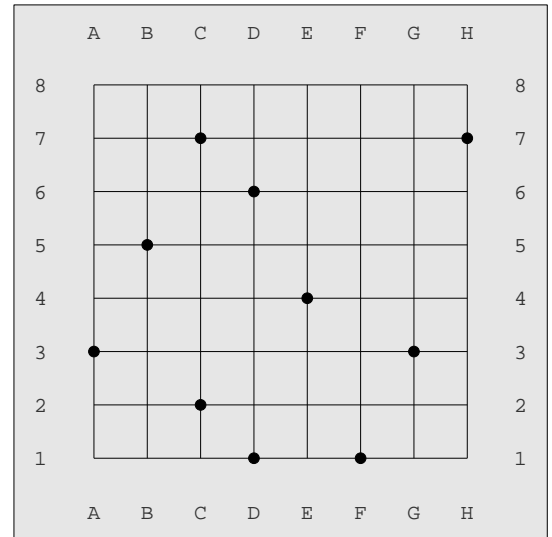
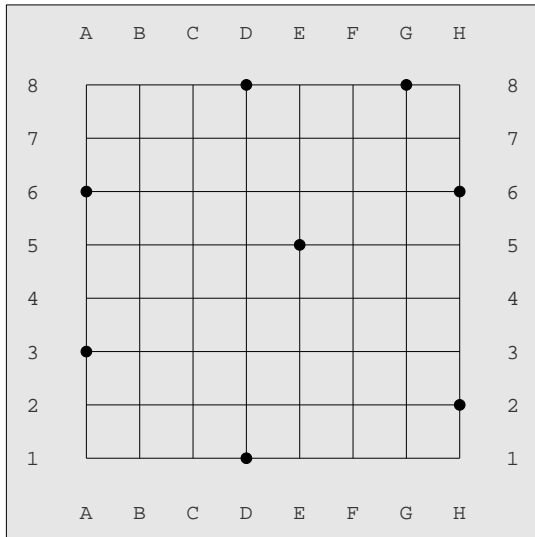
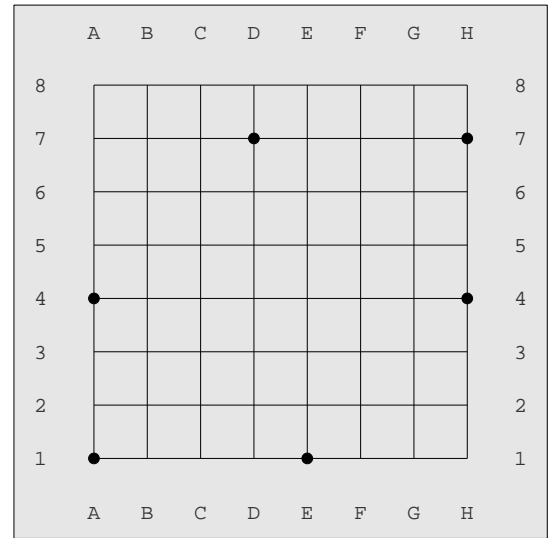
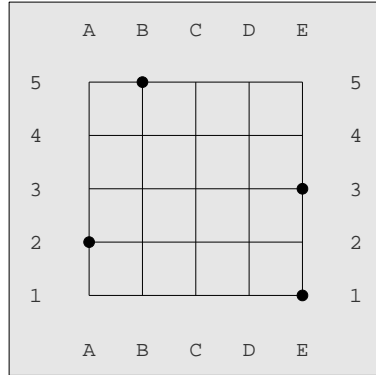
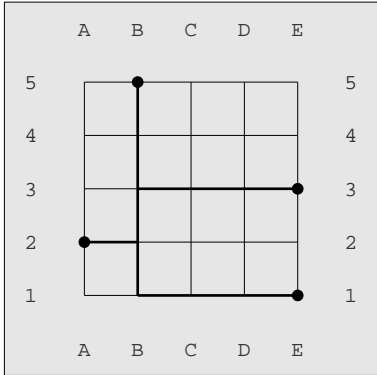


clobber an alternate-turn 2-player game. **invented** Halifax 2021. **rules** Decide who moves 1st. On your turn, if one of your marks touches an opponent's mark, you can **clobber**: erase your mark, erase their mark, put your mark where theirs was. **loser?** first player who cannot clobber. Example game below left: White loses. Play with your neighbor. For each puzzle, if Black plays 1st, who wins (has a strategy that wins against possible opponent strategies)? If White plays 1st, who wins?

<https://en.wikipedia.org/wiki/Clobber>



rectilinear steiner tree a puzzle. **invented** Nîmes 1811. **application** computer chip layout.
rules Find min number edges that join all nodes. Below left: RST has 11 edges, can you do better?
 Solve with your neighbor.



ans: 9, 19, 23, 22, 27, 28

<https://webdocs.cs.ualberta.ca/~hayward/304/asn/rstpuzz.pdf>